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ENVIRONMENTAL PROTECTION

AIR QUALITY, ENERGY, AND SUSTAINABILITY

DIVISION OF AIR QUALITY

Air Pollution Control

Control and Prohibition of Air Pollution by Volatile Organic Compounds and Oxides of Nitrogen

Adopted Amendments: N.J.A.C. 7:27-16.1, 16.7, 16.16, 16.27, 19.2, 19.5, 19.8, and 7:27A-3.10

Adopted New Rules: N.J.A.C. 7:27-16.14, 16.15, and 16.24

Proposed: January 3, 2017, at 49 N.J.R. 14(a).

Adopted: September 1, 2017, by Bob Martin, Commissioner, Department of Environmental Protection.

Filed: October 13, 2017, **with non-substantial changes** not requiring additional public notice (see N.J.A.C. 1:30-6.3).

Authority: N.J.S.A. 13:1B-3(e), 13:1D-9, 13:1D-134 et seq., and 26:2C-1 et seq., in particular 26:2C-9.2.

DEP Docket Number: 09-16-11

Effective Date: November 6, 2017

Operative Date: November 6, 2017

Expiration Date: N.J.A.C. 7:27, exempt; N.J.A.C. 7:27A, March 21, 2020; N.J.A.C. 7:27B, exempt.

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The Federal Clean Air Act (CAA) requires states in the Ozone Transport Region (OTR), including New Jersey, to adopt reasonably available control technology (RACT) for existing sources of volatile organic compounds (VOC) for which EPA has issued a control technique guideline (CTG). EPA defines RACT as the lowest emission level using controls that are technologically and economically feasible. In each CTG, EPA provides recommendations to the states for determining RACT for the CTG's emission source categories. New Jersey can comply with the VOC RACT requirement by adopting the CTG recommendations. The Department is adopting new rules and amendments at N.J.A.C. 7:27-16, to address CTGs for four source categories: Fiberglass Boat Manufacturing Materials; Industrial Cleaning Solvents; Miscellaneous Metal and Plastic Parts Coatings; and Paper, Film and Foil Coatings.

The CAA also requires OTR states to adopt RACT for all major sources of oxides of nitrogen (NO_x), including those covered by EPA's Alternative Control Techniques (ACT) documents. The Department must adopt NO_x RACT requirements for natural gas compressors since they are major sources of NO_x and are covered by an ACT document. Accordingly, the Department is adopting amendments to N.J.A.C. 7:27-19 to establish NO_x RACT standards for non-electrical generating turbines and engines that burn only natural gas as a fuel and that power compressors used to transport gaseous fuels (natural gas compressors). The adopted rules apply to natural gas compressor engines capable of producing an output of 200 brake horsepower (bhp), but less than 500 bhp, and natural gas compressor turbines. Existing rules at N.J.A.C. 7:27-19 have NO_x RACT emission standards for natural gas compressor engines capable of producing an output of 500 bhp and greater.

Related amendments to the Air Administrative Procedures and Penalties at N.J.A.C. 7:27A establish penalties for violations of the VOC and NO_x RACT standards.

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The Department will submit the adopted new rules and amendments to EPA as a revision to New Jersey's SIP. The new and amended rules will reduce emissions of VOCs and NO_x to help New Jersey to meet the national ambient air quality standard (NAAQS) for ozone, and reduce the indirect formation of PM_{2.5}, so that the State can continue to meet the NAAQS for PM_{2.5}.

Summary of Hearing Officer's Recommendation and Agency Response:

The Department held a public hearing on this rulemaking and the associated SIP revision on February 13, 2017, at the Department's Public Hearing Room, 1st Floor, 401 East State Street, Trenton. Danny Wong, Bureau Chief of Evaluation and Planning, served as Hearing Officer. Two people provided oral comments. After reviewing the comments received during the public comment period, the Hearing Officer recommended that the Department adopt the proposed rules with the non-substantial changes described below in the Summary of Public Comments and Agency Responses and in the Summary of Agency-Initiated Changes. The Department accepts the Hearing Officer's recommendations.

A record of the public hearing is available for inspection in accordance with applicable law by contacting:

Department of Environmental Protection

Office of Legal Affairs

ATTN: Docket No. 09-16-11

401 East State Street

Mail Code 401-04L

PO Box 402

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Trenton, New Jersey 08625-0402

This adoption document can also be viewed or downloaded from the Department's website at <http://www.nj.gov/dep/rules/adoptions.html>.

Summary of Public Comments and Agency Responses:

The Department accepted comments on the proposal through March 4, 2017. The following individuals provided written and/or oral comments:

1. Michael C. Callegari, The Williams Company, Incorporated, Transco
2. David Darling, American Coatings Association (ACA)
3. Barry Goodrich, Enbridge, Inc.
4. Allison Lundy, Specialty Graphic Imaging Association (SGIA)
5. Jeff Staub, Viking Yacht
6. Jeff Tittel, New Jersey Sierra Club
7. Kirk Wieber, Chief, Air Planning Section, United States Environmental Protection Agency, Region 2

The comments received and the Department's responses are summarized below. The number(s) in parentheses after each comment identify the respective commenter(s) listed above.

VOC RACT

Industrial Cleaning Solvents (ICS)

1. COMMENT: The proposed applicability threshold for the industrial cleaning provisions at N.J.A.C. 7:27-16.24 of 855 gallons of industrial cleaning solvents purchased for use per year

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(gal/yr) is appropriate, since this is consistent with thresholds included in other states' rules, including Colorado, Massachusetts, Delaware, Connecticut, New Hampshire, Wisconsin, Ohio, Illinois, and Indiana. New Jersey is correct not to include the 15 lbs/day threshold proposed by Massachusetts in addition to its proposed three ton per year threshold, because the 15 lbs/day threshold can adversely impact manufacturing operations. (2)

2. COMMENT: The proposed exemption of coatings, ink, adhesive, and resin manufacturing from the ICS VOC content limit of 50 grams per liter (g/l) is appropriate, since using solvents that meet this VOC content limit would not allow effective cleaning at these manufacturing facilities. Without this exemption, there would be problems associated with the two compliance alternatives of using either exempt solvents or caustic cleaning systems. There would also be an adverse impact on current solvent recycling programs in that manufacturers would be forced to dispose of all existing solvents instead of cleaning and rinsing process equipment with recycled/reclaimed solvents as they do now. The exemption is also consistent with EPA's CTG for ICS and other states' SIP-approved ICS rules. (2)

3. COMMENT: Thank you for considering and proposing the screen and digital printing industry's request for a 500 g/l (4.2 lbs/gal) VOC content limit for cleaning solutions to clean screen printing equipment. As solvents are needed in critical steps of screen printing operations, reasonable limits are essential for the industry's livelihood. (4)

RESPONSE TO COMMENTS 1 THROUGH 3: The Department acknowledges the commenters' support for the adopted rules.

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4. COMMENT: For the 855 gal/yr usage applicability threshold in the ICS rules, the proposed language regarding the 12-month period to be used for determining applicability is vague and may lead to issues with interpretation. The Department should specify the 12-month period for which facilities need to track their purchases, or otherwise clarify that businesses may choose which 12-month period they track. (4)

RESPONSE: The Department is modifying N.J.A.C. 7:27-16.24(a) on adoption to clarify that the applicable 12-month period in N.J.A.C. 7:27-16.24 is any 12 consecutive months. If during any period of 12 consecutive months the facility purchases more than 855 gallons of industrial cleaning solvents, the facility is subject to N.J.A.C. 7:27-16.24, unless otherwise excepted. As stated in the proposal Summary, the threshold in the proposed rules is comparable to the EPA's recommended applicability threshold of the use of solvents that emit 15 pounds or more of VOCs per day (prior to controls). To make calculations easier for a facility, the Department is basing the applicability threshold on purchases, rather than daily use. (See 49 N.J.R. at 24.) However, in order that the 12-month period in the adopted rule captures the "per day" basis of the threshold in EPA's CTG, the applicability period in the adopted rule must take into account each day; therefore, the applicability of the adopted rule is based on any period of 12 consecutive months. See also the response to Comment 7 regarding the applicability of the ICS rules to a facility that purchases industrial cleaning solvents in an amount that exceeds the threshold.

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5. COMMENT: In order to properly track VOC emissions, the Department should follow the ICS CTG recommendation and base the applicability threshold for the industrial cleaning requirements at N.J.A.C. 7:27-16.24 on the amount of solvents used, not the amount purchased, as proposed. Tracking VOC emissions based on purchase will not ensure that these amounts are utilized and “used” within the 12-month rolling period. (7)

6. COMMENT: Will the Department apply the CTG-recommended VOC content limit of 50 g/l to purchased solvents or used solvents? (7)

RESPONSE TO COMMENTS 5 AND 6: As explained in the notice of proposal Summary, basing the determination of applicability on the amount of solvent “purchased” rather “used” should be roughly equivalent, since the standard is based on each 12-month period. Stakeholders advised the Department during this rulemaking that a facility will purchase the solvent that it needs, as it needs it, rather than store solvent over an extended period. It is too costly for a facility to stockpile unused material. Therefore, the amount that a facility purchases in a 12-month period will be approximately the same as the amount that the facility uses in that 12-month period. Affected stakeholders advised the Department that keeping track of purchases is less burdensome than keeping track of material used. The latter requires employees to measure the facility’s quantity of material on hand at the start and end of each production shift or day, and generate and maintain a record of those measurements. The former is an accounting task based on documents a facility already maintains as part of its business. (See 49 N.J.R. 14 at 24.)

Further, basing the applicability threshold on the amount purchased is consistent with the guidance the EPA provided the Department in developing these rules. In an August 23, 2010

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letter to the Department, Richard Ruvo, Chief, State Implementation Planning Section, Air Programs Branch at EPA Region 2, offered Connecticut's Industrial Solvent Cleaning regulations at RCSA Section 22a-174-20(ii) "Industrial Solvent Cleaning" as an example of how the Department should address the ICS CTG in New Jersey's rules. RCSA Section 22a-174-20(ii)(2) "Applicability" provides that "... the provisions of this subsection apply to an owner or operator of any premises who purchases for use at the premises at least 855 gallons of cleaning solvents in aggregate per rolling 12-month period." The EPA approved Connecticut's SIP revisions addressing certain CTGs, including the ICS CTG, on June 9, 2014 (79 FR 32873), finding that Connecticut's industrial cleaning solvent regulations are consistent with the relevant CTGs and recommendations of the Ozone Transport Commission (OTC). (See <https://www.federalregister.gov/documents/2014/06/09/2014-13220/approval-and-promulgation-of-air-quality-implementation-plans-connecticut-reasonably-available>.)

7. COMMENT: The 855 gal/yr may be close to the ICS CTG-recommended applicability threshold of 15 pounds per day (lbs/day) of VOC emissions, but such an applicability threshold would seem to let too many emissions escape VOC limits. It is also possible to purchase more than 855 gallons of industrial solvent during a 12-month period and not exceed the 15 lbs/day threshold, and as such this annual industrial solvent purchase threshold may subject a few more ICS users to the VOC limits, since once a facility becomes subject to the rules, it remains subject to them. (7)

RESPONSE: The Department acknowledges that the 2006 ICS CTG recommends a daily VOC emission applicability threshold, and that an annual threshold will allow for daily fluctuations in

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the amount of VOC emissions. However, CTGs that the EPA issued subsequent to the ICS CTG, including those addressing paper, film, and foil coatings (PFFC), miscellaneous metal and plastic parts coating (MMPPC), and fiberglass boat manufacturing materials (FBMM), recommend either a daily or annual VOC emission applicability threshold, recognizing that the potential for daily fluctuations is not great and will not impact the environmental benefit of these requirements. These more recent recommendations by the EPA, including the use of Connecticut's SIP-approved rules, support the Department's promulgation of an ICS applicability threshold based on a consecutive 12-month period, albeit one based on amount purchased as opposed to a record of actual emissions. Information provided to and gathered by the Department suggested that it is very difficult to monitor VOC emissions from ICS usage on a daily basis and the most efficient and accurate way of verifying applicability is through purchase records.

As the commenter states, once a facility has become subject to the ICS rules by exceeding the applicability threshold, it remains subject to them, even if its purchase of solvents subsequently falls below the applicability threshold. However, a facility that becomes subject to the ICS rules can modify its permit to restrict its solvent purchases to below the applicability threshold, and thereby be relieved of complying with the ICS rules. Even if a facility does not modify its permit, the adopted ICS rule is not burdensome. Compliant solvents are readily available; the EPA issued its CTG for ICS more than 10 years ago, and during that time other states have promulgated rules subjecting facilities to the VOC limits. The required BMPs provide additional environmental benefit with simple changes to operational procedures, such as ensuring solvent containers are covered when they are not in use, and storing VOC-soaked rags in closed containers. See also the response to Comment 8 below for a discussion of BMPs.

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8. COMMENT: The Department should exempt digital printing operations from the requirements of the ICS rules, including recordkeeping. (4)

RESPONSE: Adopted N.J.A.C. 7:27-16.24(c) exempts all digital printing operations from the VOC control measures for industrial cleaning solvents. As stated in the notice of proposal Summary at 49 N.J.R. at 24, the Department exempted solvents used for the cleaning of digital printing operations from the VOC content limit since very little solvent is used to clean the parts. This is consistent with Connecticut's rules.

Digital printing operations that purchase more than 855 gal/yr of industrial cleaning solvents in a 12-month period are subject only to best management practices (BMPs) and recordkeeping requirements. Many, if not most, digital printing operations already employ BMPs to reduce emissions of solvent through evaporation, since the more solvent the facility loses through evaporation, the more solvent the facility must purchase for its own use. Thus, solvent lost through evaporation is an expense to the facility. BMPs require only simple changes to the operations at a facility, but yield significant emission reductions. The BMPs at adopted N.J.A.C. 7:27-16.24(d) are comparable to the BMPs that apply to other operations regulated under N.J.A.C. 7:27-16.

Recordkeeping imposes no additional burden on affected facilities, since the facilities already maintain records of purchases as part of their regular business. The records are necessary in order that the Department and the facility can determine whether the facility has met the 855 gal/yr threshold that would subject it to BMPs.

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9. COMMENT: The Department should follow the recommendations of the ICS CTG without exempting the cleaning of equipment used to manufacture adhesives, surface coating formulations, inks, or resins, and the cleaning of digital printing operations. (7)

RESPONSE: The adopted rules that exempt the cleaning of equipment used to manufacture adhesives, surface coating formulations, inks, or resins, and the cleaning of digital printing operations, are consistent with the EPA's recommendations in the ICS CTG. Some of the ICS CTG's recommendations are based on California's air quality regulations, specifically the regulations of the Bay Area Air Quality Management District (Bay Area), a California regional air pollution control agency that is considered a leader in addressing air pollution. Section V.B. "Suggested Exclusions" of the ICS CTG lists categories of cleaning operations that are specifically excluded from applicability in Bay Area Regulation 8, Rule 4, and suggests that states consider excluding these cleaning operations from the applicability of their industrial cleaning solvent requirements. Category operations that are specifically excluded under Bay Area 8-4-116 include stripping of cured inks, coatings, and adhesives; cleaning of resin, coating, ink, and adhesive mixing, molding, and application equipment; and performance or quality assurance testing of coatings, inks, or adhesive. Categories regulated by Bay Area 8-4-117 include coating, ink, and adhesives manufacturing, and polyester resin operations. Consequently, the adopted exemption of the cleaning of equipment used to manufacture adhesives, surface coating formulations, inks, and resins from VOC controls is consistent with the recommendations made in the ICS CTG. Analyses by both the EPA and the Bay Area support the exclusions.

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As to the exclusion of the cleaning of digital printing operations, Section V.B.

“Suggested Exclusions” of the ICS CTG recommends that states exclude from the VOC RACT rules those cleaning operations related to flexible packaging printing materials, lithographic printing materials, and letterpress printing materials, all of which are similar to the cleaning of digital printing operations, because these cleaning operations are categories addressed by other CTGs. The CTG that addresses lithographic and letterpress printing operations recommends limits for solvents used for cleaning operations that are less stringent than the VOC content limits listed in the ICS CTG, in recognition of the need for higher volatility solvents in these operations. The CTG that addresses flexible packaging printing materials operations excludes the cleaning of these operations from VOC content or vapor limit requirements and only recommends that best management practices be implemented for the handling of the cleaning materials and used shop towels. These higher VOC content limits and exclusions reflect the EPA’s determination that printing operations need greater flexibility for the VOC content level in cleaning materials. The Department notes that the EPA has approved Connecticut’s ICS rules which, like the adopted New Jersey ICS rules, exclude digital printing operations from VOC RACT requirements. Accordingly, the Department’s adopted exclusion of digital printing operations is consistent with the EPA’s principle of greater flexibility, and is also consistent with the EPA-approved rules of another state.

Further, industrial stakeholders have stated that digital printing equipment is cleaned with a Q-tip-sized tool and a very small amount of solvent, a process that emits very small amounts of VOCs. Although the ICS CTG does not specifically identify digital printing as a category of printing operation that should be excluded, digital printing operations have lower

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potential VOC emissions than some of the printing processes that the EPA has recommended be excluded, as discussed above. See the response to Comment 8 for a discussion of BMPs as applied to digital printing equipment.

Miscellaneous Metal and Plastic Parts Coatings (MMPPC)

10. COMMENT: The Department should use the content requirements in the MMPPC CTG-recommended definition for “pretreatment wash primer.” In an effort to reduce the use of more toxic formulations, which have lower VOC content, the Department has proposed a definition of “pretreatment wash primer” that would allow high VOC-content coatings to qualify as “pretreatment wash primers,” when these coatings would not qualify under the CTG-recommended definition. The Department’s proposed definition will not automatically result in a switch to alternative higher VOC content non-toxic substances. The Department should instead provide an exemption for the lower toxic coatings. (7)

RESPONSE: Pretreatment wash primer is formulated to provide corrosion resistance and is used to coat fiberglass and metal, which require specific product characteristics. Recognizing the unique nature of this coating, the EPA recommended in the MMPPC CTG a higher maximum VOC content limit for this type of coating. Several other states’ rules include this higher maximum limit, and industrial stakeholders have expressed support for the higher maximum limit. The Department is adopting this higher maximum VOC content limit for pretreatment wash primer, which is higher than the limit for any other pleasure craft surface coating category in N.J.A.C. 7:27-16.15(b), Table 15A.

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In defining pretreatment wash primer, the MMPPC CTG recommends solids and acid content requirements (as distinguished from a maximum VOC content limit) of no more than 12 percent by weight for solids and at least 0.5 percent acids. However, the products that meet these content requirements, while compliant with the maximum VOC content limit, are often formulated with toxic substances. Industrial stakeholders support the use of non-toxic coatings for this purpose, but non-toxic coatings contain higher levels of VOCs and cannot meet the CTG-recommended solid and acid content limits. The non-toxic coatings can, however, meet the solid and acid content parameters the Department adopted in its definition of “pretreatment wash primer” at N.J.A.C. 7:27-16.1. As discussed in the notice of proposal Summary, 49 N.J.R. at 20, the adopted definition of “pretreatment wash primer” includes content requirements of no more than 25 percent by weight for solids and at least 0.1 percent acids, which differs from the CTG-recommended content requirements of no more than 12 percent by weight for solids and at least 0.5 percent acids. Compared to the CTG-recommended definition, the adopted definition allows more coatings to qualify as pretreatment wash primers, and allows for the introduction of safer, alternative etch systems that may have a higher VOC content, but are not formulated with toxic substances. Although the adopted definition does not exempt lower toxic coatings, as the commenter recommends, the Department believes the adopted rules provide a proper balance providing adequate flexibility to the regulated community to use less toxic substances with higher VOC content, and ensuring that the VOC content does not exceed the regulatory limit and cause an adverse environmental impact.

According to information that stakeholders provided to the Department during the development of this rulemaking, the adopted definition allows for an increased quantity of safer (non-carcinogenic) replacement pigment that is required for equivalent coating performance (the

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higher “percent solids” value) and the reduced level acid needed to perform adequately (the minimum “percent acids” value). The adopted content requirements for “pretreatment wash primer” are the same as those in the EPA-approved rules adopted by Connecticut, Maryland, and New Hampshire.

11. COMMENT: The Department should adopt the MMPPC CTG's recommended military specification coating limits without the proposed partial exemptions. If certain military products need specific exemptions, the Department should add them, rather than adopt a blanket exemption. (7)

RESPONSE: As discussed in the notice of proposal Summary, 49 N.J.R. at 22, in response to requests from stakeholders adopted N.J.A.C. 7:27-16.15(c)3vii exempts any military specification coating that has been formulated to meet a higher, less stringent, VOC content limit than the limit set forth at N.J.A.C. 7:27-16.15, Table 15B for use on military equipment. The military specification coatings are not exempted from the adopted recordkeeping requirements. The exemption is intended to address coatings that have been approved by a United States military agency as meeting a written military specification with the higher VOC content. The higher VOC content specification is often included where a coating complying with a lower VOC content requirement cannot satisfy particular coating performance requirements. This is more efficient than amending the rule to exempt an individual coating each time there is a new military-exempted coating.

The Department extensively reviewed military specification sheets and confirmed that an overwhelming majority of coatings meeting military specifications would meet the adopted

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standard in N.J.A.C. 7:27-16.15, Table 15B. In addition, the Environmental Security Technology Certification Program (ESTCP), which is the Department of Defense's environmental technology demonstration and validation program, has conducted many studies to develop coatings for military use that contain low or no VOC. (See <https://www.serdp-estcp.org/>.) These studies have led and will continue to lead to further decreases in the VOC emissions from military specification coatings.

12. COMMENT: The Department should give manufacturing facilities two years to comply with the new miscellaneous metal and plastic parts requirements in order to allow manufacturers to determine how the adopted requirements can be implemented at individual facilities and for specific products. It will take time to arrange with vendors to find alternative compliant products that will meet a manufacturer's quality standards, and additional time to test the metal and plastic parts once they are incorporated into the manufacturer's product and are in use. For some manufacturers, such as boat builders, this could be as much as six to eight months. An extension of time to comply would allow a manufacturer subject to the MMPPC requirements the time necessary to ensure that any new coating formulations would meet both the new VOC content limits and any performance and durability requirements. (5)

RESPONSE: The Department is not modifying the rule on adoption to allow additional time for facilities to comply with the rules. EPA published the MMPPC CTG in September 2008, and directed states to promulgate rules to implement the standards. Boat building facilities in Connecticut and Maryland have been subject to the MMPPC requirements since 2012; compliant coatings have been available and in use for at least five years. As discussed above, the

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Department committed in the 2015 RACT SIP revision to requiring RACT for all VOC source categories for which there is a CTG, which includes the MMPPC CTG. At its regularly scheduled industrial stakeholders' meetings, the Department has repeatedly affirmed its commitment to move forward with the rules (<http://www.state.nj.us/dep/aqpp/isg.html>).

If a manufacturer is unable to meet the adopted requirements, it may apply to the Department for an alternative and facility-specific VOC emissions limit, pursuant to N.J.A.C. 7:27-16.17.

NO_x RACT

Natural Gas Engines and Turbines Powering Natural Gas Compressors

13. COMMENT: The Department should consider allowing the regulated community three years to achieve compliance, similar to compliance periods promulgated by other states, such as Pennsylvania, particularly for cases involving full replacement of existing compressor engines. If a facility is considering replacing existing natural gas fueled compressor engines with electric motor-driven compression or state-of-the-art natural gas-fueled compression engines, as an alternative to installing NO_x control technology on existing equipment, the proposed two-year compliance window does not allow for realistic replacement of station infrastructure or account for unanticipated schedule delays. (1)

14. COMMENT: The Department should allow three years to achieve compliance from the effective date of the proposed RACT rules, or provide for a case-by-case schedule based on the execution and operational constraints of the specific replacement project. The proposed RACT rules will require the installation of control technology, or replacement of two natural gas

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combustion turbines at a compressor station in which the commenter has an interest. The facility would like to replace these existing turbines with lower emitting turbine(s) that will offer superior performance to New Jersey's State-of-the-Art (SOTA) performance levels, and provide quantifiable environmental benefits beyond the proposed RACT. Based on its experience and that of its industry peers, the commenter believes that replacement projects require more than the proposed two years to implement. Pennsylvania and Connecticut's RACT regulations accommodate this requirement. (3)

RESPONSE TO COMMENTS 13 and 14: The Department advised the regulated community at the July 14, 2014 stakeholders meeting of its intention to promulgate NO_x RACT requirements, and has repeated this intention during subsequent regularly scheduled meetings of industrial stakeholders. In the 2015 RACT SIP revision, the Department committed to requiring RACT for all NO_x sources for which there is an ACT, and all NO_x major sources for which there is no EPA-issued ACT document. Therefore, the regulated community has already had three years to prepare for the adopted rules. The Department acknowledges that Pennsylvania and Connecticut provided additional time for affected facilities to comply with the NO_x RACT requirements; however, these states promulgated their rules earlier than New Jersey did. New Jersey needs to achieve a reduction in ozone (for which NO_x is a precursor) as expeditiously as possible in order to meet the 2018 attainment date for the 2008 75 ppb ozone NAAQS. Accordingly, the Department is not modifying the rules on adoption to extend the compliance date.

Pursuant to N.J.A.C. 7:27-19.13, a facility subject to the adopted NO_x standards can apply for an alternative or facility-specific NO_x emissions limit if it determines that two years is

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insufficient time to comply with the new standards. This process provides the option for a case-specific determination for replacement projects. Therefore, the Department's rules already provide for a case specific determination as requested by the commenter.

15. COMMENT: The Department should treat all modifications or upgrades to existing compressor stations as new source review and require the equipment to meet the lowest achievable emissions rate. (6)

RESPONSE: The Federal Clean Air Act's new source review (NSR) program applies only to a major new stationary source and a significant modification of an existing major source. Such sources must achieve pollution control consistent with the lowest achievable emission rate, or LAER. Requiring an existing source to comply with NSR and LAER for every modification and upgrade, regardless of emission increases, if any, associated with the change, is inconsistent with the Clean Air Act.

As discussed in the proposal Summary (49 N.J.R. at 16), the purpose of this rulemaking is to implement RACT measures for the 75 ppb ozone NAAQS, as the State committed to do in its June 2015 SIP. RACT is defined as the lowest emission limitation that a source can achieve by applying control technology that is reasonably available taking into account technological and economical feasibilities and is required for existing sources. LAER, on the other hand, reflects the more restrictive of either the most stringent emission limitation achieved in practice by a plant in the source category, or the most stringent limitation contained in any SIP for the source category, without regard to cost.

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The NSR permitting requirements are set forth in the Department's permitting rules at N.J.A.C. 7:27-8 and N.J.A.C. 7:27-22. As part of the NSR program, an assessment is made for major new or modified sources in nonattainment areas if LAER is applicable. An existing facility is required to reduce emissions to a LAER level only under two circumstances: 1) when the proposed modification to an existing equipment or source operation increases emissions above the significant net emission increase levels specified in N.J.A.C. 7:27-18.7; and 2) when a cumulative impact analysis shows an existing facility causing or contributing to a violation of a NAAQS. If LAER applies, N.J.A.C. 7:27-18 requires a facility to demonstrate that air contaminant emissions from the equipment proposed to be constructed, reconstructed, or modified will be controlled to the degree that represents LAER.

If an existing facility does not make any changes as explained above, then the LAER requirement does not apply. To require LAER for all modifications or upgrades to existing equipment at compressor stations would be a significant departure from both the Federal and State requirements for existing sources.

16. COMMENT: Since New Jersey is not attaining the ozone health standard, the Department should do more than RACT alone and look at other technologies and standards. The Department should consider a different technology, such as using electric motors to compress natural gas in pipelines, that can lower emissions significantly more than the proposed rules and at a reasonable, though possibly higher, cost. (6)

RESPONSE: The Department does not specify the technology that a facility must implement in order to meet the applicable NO_x standards, whether RACT or LAER. It is up to the facility to

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determine how they are to meet their regulatory requirements. The Department evaluates the permit application as submitted, and approves or denies the application based on the facility's compliance with applicable State or Federal air pollution control rules and regulations. An air permit applicant has the flexibility to adopt any control measure deemed necessary to meet State or Federal rules and regulations. The Department notes that at least one regulated facility has advised the Department that it intends to replace its existing compression engines with electric motor-driven compression or state-of-the-art natural gas-fueled compression engines.

Additionally, as explained in the proposal (49 N.J.R. at 25), the Department used the information, including various technologies, from the OTC model rule, OTC technical support documents, NESCAUM technical documents for NO_x controls, and other states' rules to arrive at the proposed limits as technological and economical feasible. Replacement with electric motors requires significant cost for existing facilities and would, therefore, not meet the economic feasibility prong of the RACT requirement.

17. COMMENT: New Jersey should not base the NO_x emission standards for engines and compressors on Pennsylvania and Texas, which both have terrible environmental records. New Jersey should look instead at states like California, which has a standard of 15 parts per million volume dry basis (ppmvd) or less. At a minimum, the State's standards should be consistent with the OTC-recommended levels of 25 ppmvd, but given New Jersey's serious problems, it needs to go beyond that. (6)

18. COMMENT: New Jersey should consider a more stringent NO_x emission standard of 25 ppmvd than the proposed 42 ppmvd for the compressor turbines since the OTC Model Rule

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established a NO_x limit of 25 ppmvd for compressor turbines rated at 5,000 brake horsepower (bhp) or more, New Jersey has permitted limits of 25 ppmvd for compressor turbines rated 5,000 bhp or more within the State, and Spectra Energy already has compressor turbines rated at 5,000 bhp or more within New Jersey that are permitted at 25 ppmvd. (7)

RESPONSE TO COMMENTS 17 AND 18: The Department acknowledges that New Jersey has permitted certain compressor turbines at 25 ppmvd. RACT limits apply only to existing units that are not being modified. SOTA requirements apply when a piece of equipment is newly constructed, reconstructed, or modified. If a facility replaces rather than retrofits a non-compliant turbine, it must meet SOTA emissions level, which has been demonstrated to be 25 ppmvd (N.J.A.C. 7:27-22.35, Advances in the art of air pollution control). The Spectra Energy natural gas compressor turbines that the commenter identifies have allowable NO_x levels of 25 ppmvd because the owner applied to make major modification to the existing units and, therefore, had to comply with SOTA requirements. The adopted RACT limit does not mean that these newer existing units can increase their emissions to a higher level than is set forth in their permits.

The adopted 42 ppmvd is the appropriate limit for existing units to meet RACT for the 75 ppb ozone NAAQS for several reasons. In developing the adopted RACT limit of 42 ppmvd for all compressor turbines, the Department looked to Pennsylvania and Texas because the two states lead the nation in the numbers of natural gas transmission facilities and have experience regulating them. Both of these states, and also Delaware, established a RACT limit of 42 ppmvd for certain ratings or sizes of compressor turbine, as follows: Pennsylvania, equal to or greater than 6000 hp; Texas, greater than or equal to 10 MW (equivalent to 13,410 hp); and Delaware,

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greater than 15 MMBTU/Hr (equivalent to 2064 hp assuming 35 percent thermal efficiency of simple cycle turbine).

The 2014 OTC Model Rule NO_x limits are 25 ppmvd for turbines with a rating of 5,000 bhp or more, 50 ppmvd for turbines with a rating between 2,000 and 5,000 bhp, and 150 ppmvd for turbines with a rating less than 2,000 bhp. In developing its Model Rule, the OTC evaluated the California rule and decided to use 25 ppmvd only for the turbines with the highest bhp rating. The OTC is a multi-state organization created under the Clean Air Act acting on behalf of the states comprising the OTR, which are Connecticut, Delaware, the District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Virginia. Although OTC recommended 25 ppmvd for turbines of 5,000 bhp or greater, no OTR state has adopted this standard. The Department's adopted 42 ppmvd limit is less stringent than the OTC Model Rule for compression turbines of 5,000 bhp and greater, but is more stringent than the OTC Model Rule for turbines less than 5,000 bhp. The Department determined that the 42 ppmvd is technologically and economically feasible, as discussed in the proposal Summary (49 N.J.R. at 16).

19. COMMENT: The Department should follow California's lead and require 95 percent, not 80 percent, vapor control on fugitive emissions for microturbines with NO_x incinerators. In California, areas under RACT that are in non-attainment require microturbines with NO_x incinerators to reduce those levels. (6)

RESPONSE: The Department presumes that the commenter is referring to the stack emission reduction standard for uncontrolled NO_x (not fugitive NO_x or VOC) emissions referred to in

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Table A of the notice of proposal Summary, 49 N.J.R. at 25. The OTC Model Rule does require compressor turbines to meet the more stringent of either 25 ppmvd at 15 percent O₂ or 80 percent reduction from uncontrolled emissions. The Department did not find the referenced uncontrolled emission percent reduction standard of 95 percent for compressor turbines in the California rules.

The 2012 OTC Final Technical Document indicated that the use of any of three existing technologies would allow existing compressor turbines to obtain emission reduction values ranging from 40 to 95 percent, including a technology that would allow existing turbines to meet the 42 ppmvd at 15 percent O₂ standard as adopted by Delaware, Pennsylvania, and Texas. The Department concluded that it was not economically feasible to achieve the 95 percent reduction for existing turbines. For this reason, that level of control was deemed not to be RACT.

The adopted rules do not address RACT for microturbines because none of the New Jersey compressor stations has microturbines. Should an affected facility replace its existing turbines with new microturbines, the facility would be required to meet the more stringent SOTA NO_x emission standard of 9 ppmvd at 15 percent O₂.

20. COMMENT: The Department's rules at N.J.A.C. 7:27-19.8 already include limits of 1.5 grams/brake horsepower-hour (g/bhp-hr) for gas-fired lean and rich burn compressor engines rated above 500 bhp. Such limits are reasonable for the three compressor engines at the Transco Station 240 Liquefied Natural Gas Plant in Carlstadt. New Jersey should adopt a NO_x limit of 1.5 g/bhp-hr instead of the proposed 3.0 g/bhp-hr for all compressor engines. New York has set the 1.5 g/bhp-hr limit for compressor engines rated above 200 bhp within the New York City Metropolitan boundary and set similar limits throughout the remainder of New York State for compressor engines rated above 400 bhp. (7)

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RESPONSE: Applicability and effectiveness of a NO_x control to an engine vary by make, model, vintage, location, and operating characteristics, as discussed in the OTC's October 17, 2012 technical document entitled "Technical Information - Oil and Gas Sector Significant Stationary Sources of NO_x Emissions – Final – October 17, 2012," (2012 OTC Final Technical Document), available at www.otcair.org. The site-specific installation issues of NO_x control may also be a consideration. The 2012 OTC Final Technical Document recommends addressing these issues by providing appropriate flexibility in rulemaking. The Department considered this guidance when developing the adopted limit. (See 49 N.J.R. at 26.)

The limits at existing N.J.A.C. 7:27-19.8(a) and (b) to which the commenter refers are for engines rated 500 bhp or greater. The adopted 3.0 g/bhp-hr NO_x limit applies to smaller size lean burn engines rated between 200 bhp to 500 bhp. This 3.0 g/bhp-hr limit is appropriate for several reasons. It is consistent with the OTC Model Rule. Further, both Pennsylvania and Texas established a RACT limit of 3.0 g/bhp-hr. The Department reviewed costs of retrofitting the three natural gas compressor engines at the Transco Station 240 Liquefied Natural Gas Plant in Carlstadt and determined that the retrofit costs (\$4,319 to \$16,228 per ton of NO_x reduced, as stated in Table F of the Economic Impact, 49 N.J.R. at 30) are reasonable for the adopted 3.0 g/bhp-hr limit. The costs of retrofitting the three natural gas compressor engines to a 1.5 g/bhp-hr limit, as the commenter suggests, would be considerably more expensive. The Department would expect that the facility would apply to the Department for a case-by-case RACT review, if the limit were reduced to 1.5 g/bhp-hr. Such a review is costly for both the applicant and the Department. New York's NO_x RACT rule (6 NYCRR 227-2.4), to which the commenter refers, specifically allows a case-by-case RACT demonstration to be conducted in lieu of the

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presumptive RACT limit of 1.5 g/bhp-hr, indicating that New York anticipates that its sources will not be able to comply with the lower RACT limit. Since the Department's adopted rule is technically feasible and cost effective, there should be no need for such a review. The Department believes that the NO_x limit of 3.0 g/bhp-hr is sufficient to enable the State to comply with the 75 ppb ozone NAAQS.

21. COMMENT: The proposed rules will have some modest improvements in air quality. However, since New Jersey is out of attainment for ground level ozone, the State needs to do more. RACT by itself is not enough. The State must look to other technologies and standards, and the rules must be amended and strengthened to better protect the environment and prevent emissions from all sources, including compressor stations. (6)

RESPONSE: New Jersey's SIP addresses attainment and maintenance of the ozone NAAQS through a number of its air quality programs, including NO_x RACT as applied to compressor turbines and compressor engines, addressed in these adopted rules. Ozone reduction efforts beyond NO_x RACT as applied to compressor turbines and compressor engines are beyond the scope of this rulemaking. The Department will continue to review its rules, Federal requirements, and available technology to determine whether additional measures are necessary.

Summary of Agency-Initiated Changes:

The Department is modifying the rules on adoption to add a definition of "architectural coating" at N.J.A.C. 7:27-16.1. In the notice of proposal Summary, 49 N.J.R. at 24, the

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Department stated its intention to define this term using the existing definition of “architectural coating” at N.J.A.C. 7:27-23.2.

The Department proposed a definition of the term “clear coating” as that term is used in the adopted rules. However, there is already a definition of “clear coating” in N.J.A.C. 7:27-16.1 that denotes a coating that used in metal, not plastic, applications. These coatings are regulated in existing N.J.A.C. 7:27-16.7, Table 7B, “Miscellaneous Surface Coating Operations Control Criteria and Compliance Dates.” The Department proposed to amend and move the provisions relating to “Metal Parts and Products” (which include clear coating) to the new N.J.A.C. 7:27-16.15, Table 15B, “Metal Parts and Products VOC Content Limits,” but did not propose to amend provisions in Table 7B that regulate clear coatings in the Group III category of “Pipe Coating for Metal and Concrete Pipe.” To distinguish between the “clear coating” for metal parts and products (Table 7B) and the “clear coating” for plastic parts and products, the Department is modifying the rules on adoption by adding “(plastic)” to the term “clear coating” when it applies to plastic parts and products, and substituting “clear coating (plastic)” for “clear coating” wherever that term is used in Table 15D.

At N.J.A.C. 7:27-16.24(e)3, the Department is replacing the undefined acronym “SDS” with “safety data sheet (SDS)” consistent with the use of this term elsewhere in the subchapter.

The Department is amending and recodifying N.J.A.C. 7:27-19.2(b)12 as 14, and renumbering the remaining paragraphs, to end the subsection with “any other equipment or source operation not specifically listed at (b)1 through 13 above or (c) below that has the potential to emit more than 10 tons of NO_x per year.” As a catch-all category of equipment or source operations, it appropriately belongs at the end of the list.

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The following modifications on adoption clarify language and correct errors. In the definition for “air-assisted airless spray” at N.J.A.C. 7:27-16.1, the phrase “lower air pressure” replaces the incorrect “lower pressure air.” The Department intended to propose a definition for “black automotive coating” at N.J.A.C. 7:27-16.1 that was substantively identical to its definition in the MMPPC CTG, at Appendix H, Recommended Coating Category Definitions. (See the notice of proposal Summary, 49 N.J.R. at 19.) The proposed definition contains the word “units” (or “umits” as it was incorrectly published), which is not used in the MMPPC CTG definition; saturation is described using numbers. The definition as modified on adoption matches the MMPPC CTG definition.

As proposed, new N.J.A.C. 7:27-16.15(h)3 incorrectly references N.J.A.C. 7:27-16.15(k) as the provision containing the calculations that are to be maintained by the owner or operator of a surface coating operation. There are no such calculations at N.J.A.C. 7:27-16.15(k); they are codified at N.J.A.C. 7:27-16.15(j), as shown in the rule as modified on adoption.

Other modifications on adoption correct grammar, capitalization, and transposed letters.

Federal Standards Analysis

Executive Order No. 27 (1994) and N.J.S.A. 52:14B-1 et seq. (P.L. 1995, c. 65), require State agencies that adopt, readopt, or amend State rules that exceed any Federal standards or requirements to include in the rulemaking document a Federal standards analysis. The adopted new rules and amendments are needed to fulfill a Federal CAA requirement that New Jersey adopt control measures to reduce NO_x, VOCs, and PM_{2.5} emissions to attain the ozone NAAQS and maintain the fine particulate NAAQS. For the VOC control measures, only one adopted VOC emission limit is more stringent than that recommended in EPA’s CTG.

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Based on stakeholder input, as discussed in the proposal, the Department did not follow the ICS CTG recommendation to exclude all graphic arts printing and coating operations from the recommended VOC content limits for the cleaning solvents used in the industrial cleaning process. The Department excluded all graphic arts printing and coating operations, except screen printing, which makes the new requirement for screen printing operations at N.J.A.C. 7:27-16.24(c) more stringent than the Federal requirements. The Department based this exception on the EPA's recommendation that states consult Connecticut's ICS CTG rule (R.C.S.A. 22a-174-20(ii)(3)(C)) and on stakeholder comments that compliant solvents are readily available and are being used. As discussed in the Economic Impact, cleaning solvents that meet the proposed 500 g/l limit are readily available and companies that switch to compliant solvents, if they have not already done so, will not be subject to any additional burden.

There is no Federal NO_x standard for existing and unmodified compressor turbines and compressor engines that do not generate electricity. However, the CAA requires states in the OTR, including New Jersey, to develop RACT for existing sources of NO_x such as these turbines and engines. The adopted rules establish RACT for these sources, and are, therefore, consistent with the Federal requirements. Accordingly, no further analysis is required.

Full text of the adoption follows (additions to proposal indicated in boldface with asterisks

thus; deletions from proposal indicated in brackets with asterisks ***[thus]***):

CHAPTER 27

AIR POLLUTION CONTROL

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SUBCHAPTER 16. CONTROL AND PROHIBITION OF AIR POLLUTION BY VOLATILE ORGANIC COMPOUNDS

7:27-16.1 Definitions

The following words and terms, when used in this subchapter, have the following meanings, unless the context clearly indicates otherwise.

...

“Air-assisted airless spray” means a coating spray application system using fluid pressure to atomize the coating and lower ***air*** pressure ***[air]*** to adjust the shape of the spray pattern.

...

“Architectural coating” means a coating to be applied at the site of installation to the following: stationary structures or their appurtenances, portable buildings, pavements, or curbs. This term does not include adhesives and coatings applied in shop applications or to non-stationary structures such as airplanes, ships, boats, railcars, and automobiles.

...

“Black automotive coating” means a coating that meets both of the following criteria:

1. Maximum lightness: 23 units; and
2. Saturation: less than 2.8 ***[umits]***, where saturation equals the square root of

$A^2 + B^2$.

These criteria are based on Cielab color space, 0/45 geometry. For spherical geometry, specular included, maximum lightness is 33 units.

...

“Clear coating ***(plastic)***” means a colorless coating that contains binders, but no pigment, and is formulated to form a transparent film.

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...

7:27-16.15 Miscellaneous metal and plastic parts coatings

(a) This section applies to all source operations at a facility whose cumulative actual VOC emissions exceed 2.7 tons during any consecutive 12-month period from all miscellaneous metal and plastic parts surface coating operations, including related cleaning activities, but **[shall]** ***does*** not apply to a surface coating operation that uses exclusively powder coating.

(b) (No change from proposal.)

(c) Except as set forth in (c)3 below, the owner or operator of a metal parts and products surface coating operation to which this section applies shall ensure that:

1. and 2. (No change from proposal.)

3. The provisions of (c)1 and 2 above **[shall]** ***do*** not apply to the following metal parts and products surface coating operations:

i. through vii. (No change from proposal.)

Table 15B

METAL PARTS AND PRODUCTS VOC CONTENT LIMITS

(No change from proposal.)

(d) Except as set forth in (d)3 below, the owner or operator of a plastic parts and products surface coating operation to which this section applies shall ensure that:

1. and 2. (No change from proposal.)

3. The provisions of (d)1 above **[shall]** ***do*** not apply to the following plastic parts and products surface coating operations:

i. through ix. (No change from proposal.)

TABLE 15C

(No change from proposal.)

(e) Except as set forth in (e)3 below, the owner or operator of an automotive/transportation or business machine plastic parts and products surface coating operation to which this section applies shall ensure that:

1. and 2. (No change from proposal.)
3. The provisions of (e)1 above *[shall]* ***do*** not apply to the following automotive/transportation and business machine plastic parts and products surface coating operations:
 - i. through viii. (No change from proposal.)

TABLE 15D

AUTOMOTIVE/TRANSPORTATION AND BUSINESS MACHINE PLASTIC PARTS AND PRODUCTS SURFACE COATING FORMULATION VOC CONTENT LIMITS

Coating Category	Maximum Allowable	
	VOC Content per Volume of Coating	
	(minus water and exempt organic substances)	
	Pounds per gallon	Kilograms per liter
<hr/> Automotive/transportation coatings ¹ :		
High bake coatings – interior and exterior parts		

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Flexible coating primer	4.5	0.54
Non-flexible coating primer	3.5	0.42
Base coats	4.3	0.52
Clear coating *(plastic)*	4.0	0.48
Non-basecoat/clear coating *(plastic)*	4.3	0.52
Automotive/transportation coatings ¹ :		
Low bake/air-dried coatings – exterior parts		
Primers	4.8	0.58
Basecoat	5.0	0.60
Clear coating *(plastic)*	4.5	0.54
Non-basecoat/clear coating *(plastic)*	5.0	0.60

...

(f) (No change from proposal.)

TABLE 15E

(No change from proposal.)

(g) (No change from proposal.)

(h) The owner or operator of a surface coating operation implementing (b)1i, (c)1i, (d)1i, (e)1i, or (f)1i above, shall maintain records of the VOC content of each surface coating formulation as applied, as follows:

1. and 2. (No change from proposal.)
3. The calculations performed pursuant to ***(k)*** ***(j)*** below.

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(i) through (n) (No change from proposal.)

7:27-16.16 Other source operations

(a) The provisions of this section apply to any source operation, except source operations in the following categories (*[Note]* ***note***: *[Source]* ***source*** operations in those categories designated by an asterisk (*) that have the potential to emit three pounds per hour or more of VOC and that are located at a major VOC facility are regulated by N.J.A.C. 7:27-16.17*[*]*):

(b) – (g) (No change from proposal.)

7:27-16.24 Industrial cleaning

(a) Except as provided at (b) below, this section applies to industrial cleaning at a facility that purchases for use more than 855 gallons of industrial cleaning solvents, in aggregate, during any [12-month] period *** of 12 consecutive months***.

(b)-(d) (No change from proposal.)

(e) The owner or operator of a facility that conducts industrial cleaning subject to this section shall maintain, on site, a record of the purchased industrial cleaning solvents, pursuant to N.J.A.C. 7:27-16.22, as follows:

1.-2. (No change from proposal.)

3. The *[SDS]* ***safety data sheet (SDS)*** for each industrial cleaning solvent purchased;

4.-5. (No change from proposal.)

(f)-(h) (No change from proposal.)

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7:27-16.27 Exceptions

- (a) (No change from proposal.)
- (b) The provisions of this subchapter *[shall]* ***do*** not apply to the emissions of VOC from the following source operations:
 - 1. through 3. (No change from proposal.)

SUBCHAPTER 19. CONTROL AND PROHIBITION OF AIR POLLUTION FROM OXIDES OF NITROGEN

7:27-19.2 Purpose, scope, and applicability

- (a) (No change from proposal.)
- (b) The following types of equipment and source operations are subject to the provisions of this subchapter:
 - 1.-10. (No change from proposal.)
 - 11. Any sewage sludge incinerator;
 - *[12. Any other equipment or source operation not specifically listed at (b)1 through 11 above or (b)13 and 14 or (c) below that has the potential to emit more than 10 tons of NO_x per year;]*
 - *[13.]* ***12.*** Any simple cycle combustion turbine combusting natural gas and compressing gaseous fuel at a major NO_x facility; *[and]*
 - *[14.]* ***13.*** Any stationary reciprocating engine capable of producing an output of 200 bhp or more but less than 500 bhp, combusting natural gas, and compressing gaseous fuel at a major NO_x facility*[*]* **;** **and**

NOTE: THIS IS A COURTESY COPY OF THIS RULE ADOPTION. THE OFFICIAL VERSION WILL BE PUBLISHED IN THE NOVEMBER 6, 2017 NEW JERSEY REGISTER. SHOULD THERE BE ANY DISCREPANCIES BETWEEN THIS TEXT AND THE OFFICIAL VERSION OF THE ADOPTION, THE OFFICIAL VERSION WILL GOVERN.

14. Any other equipment or source operation not specifically listed at (b)1 through 13 above or (c) below that has the potential to emit more than 10 tons of NO_x per year.*

(c)-(f) (No change proposal.)

7:27-19.5 Stationary combustion turbines

(a)-(k) (No change from proposal.)

(l) Beginning (two years from the effective date of this amendment), any simple cycle combustion turbine combusting natural gas and compressing gaseous fuel at a major NO_x facility shall not emit more than 42 parts per million by volume, dry basis, *[(ppmdv)]* *(**ppmvd**)* of NO_x, corrected to 15 percent oxygen.